



PATENT
Attorney Docket N° 03-0272

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

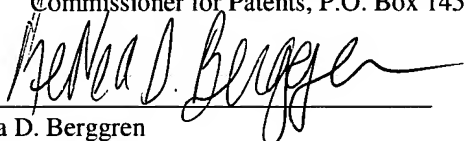
In re Application of : Mahmoud Jibbe
Serial N° : 10/629,877
Filed : July 29, 2003
Group Art Unit : 2188
Examiner : Doan, Duc T.
For : A METHOD FOR ESTABLISHING A REDUNDANT ARRAY
CONTROLLER MODULE IN A STORAGE ARRAY NETWORK

MS AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service on November 29, 2006, in a First Class envelope, with sufficient postage thereon, addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.


ReNea D. Berggren

DATED: November 29, 2006

Dear Sir:

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This *Request* is being filed with a *Notice of Appeal*.

The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.

REMARKS

Claims 1-12 and 14-27 are now pending in this application. Claims 1, 10 and 22 are independent claims.

Errors in Law-103 Rejections

Claims 1-2, 4 and 8-9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sawdy et al., U.S. Patent No. 6,351,831 (Sawdy) in view of Rauscher, U.S. Patent No. 6,874,100 (Rauscher) and further in view of Cruyningen, U.S. Publication 2002/0019897 (Cruyningen). Claim 3 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Sawdy, Rauscher, and Cruyningen in further view of Brocade (Quick loop data sheet). Claims 5-7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sawdy, Rauscher, Cruyningen, in further view of Deng, U.S. Patent 6,937,608 (Deng). Claims 10-12, 14-18, 20, and 22-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sawdy, Rauscher, Cruyningen, in further in view of Workman et al., U.S. Publication 2004/0068591 (Workman), and Jantz, U.S. Patent No. 5,944,838 (Jantz). Claims 19 and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sawdy, Rauscher, Cruyningen, Workman, Jantz, in further view of Ito et al., U.S. Publication 2003/0014600 (Ito). Applicant respectfully traverses these rejections.

“To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. (emphasis added). Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.” (emphasis added) (MPEP § 2143). “If an independent claim is non-obvious under 35 U.S.C. 103, then any claim depending therefrom is non-obvious.” *In re Fine*, 837 F. 2d 1071, 5USPQ2d 1596 (Fed. Cir. 1988).

The present invention claims limitations not taught or suggested by the cited references. Independent claims 1, 10 and 22 of the present invention each generally

recite a storage area network, including: a first and second storage array controller module each having a first and second array controller unit wherein the first performs storage array controller functions and the second is a redundant backup. The Patent Office cites to Sawdy for this. (Final Office Action 09-06-06, p3). However, Sawdy does not disclose a first and second storage array controller module wherein each storage array controller module has a first and second array controller unit. Sawdy discloses two RAID controllers, not two storage array controller modules. The two storage array controller modules in the present invention each contain two controller units. The RAID controllers in Sawdy are just composed of one RAID controller each. Further, Sawdy does not state that one RAID controller is primary and the other is a redundant backup. Sawdy merely states that there are two RAID controllers for redundancy.

The Patent Office correctly admitted Sawdy and Rausner do not disclose the claimed first and second array controller units. (Final Office Action 09-06-06, p3). The Patent Office cited to Cruyningen for this, stating it was obvious to include the grouping of disks into units as suggested by Cruyningen in Sawdy's system such that devices can easily be managed. (Final Office Action 09-06-06, p3-4). However, Cruyningen discloses the utilization of switches to partition I/O channels. Cruyningen discloses nothing concerning first and second array controller units within a storage array controller module.

Independent claim 10 further recites the limitation of performing a handshaking protocol. The Patent Office correctly admitted Sawdy, Rauscher, and Cruyningen do not describe the claimed handshaking protocol. (Final Office Action 09-06-06, p6). The Patent Office cited to Workman for this, stating it was obvious to include the heartbeat signals suggested by Workman in Sawdy's system to monitor and determine if a switch over is required. (Final Office Action 09-06-06, p6). A handshake protocol is a sequence of negotiations between two or more communicating devices, requiring mutual agreement. In the cited section of Workman, the controllers monitor the heartbeat connection and act accordingly if the heartbeat connection is interrupted. Both controllers in Workman monitor the heartbeat connection and act based on the monitored

condition. There is no negotiation and no mutual agreement by the controllers in Workman. Thus, Workman does not disclose a handshake protocol.

Independent claim 22 further recites the limitation of two separate command queues, one for each controller module. The Patent Office correctly admitted Sawdy, Rauscher, Cruyningen, and Workman do not disclose the claimed command queue. (Final Office Action 09-06-06, p7). The Patent Office cited to Jantz for this, stating it was obvious to include the command queues suggested by Jantz in Sawdy's system so that the I/O pending requests can be rapidly identified and restarting all such identified I/O requests on the alternate good I/O path. (Final Office Action 09-06-06, p7). Jantz discloses a RDAC software layer that contains an I/O queue of pending I/O requests. I/O requests come from the application layer and are handled by the RDAC layer. The RDAC layer attempts to process the request on the first I/O path. If the first I/O path fails to process the request the RDAC layer attempts to process the I/O request on a second I/O path. Only when the I/O request is successfully processed is the I/O request removed from the I/O queue. However, the RDAC layer is a software layer separate from the control modules and there is only a single queue. Jantz does not disclose separate queues. Thus, Jantz does not disclose the claimed command queues.

Further, as to independent claims 1, 10 and 22, there is no motivation to use the teachings of Sawdy, Rauscher, and Cruyningen in combination. All three do relate to storage systems, but all three relate to completely different areas of the storage system field. Sawdy relates to cabling verification in a storage system. Rauscher relates to protecting a storage system against having a single point of potential failure. Cruyningen relates to utilization of switches to partition I/O channels in a storage system. All three references solve totally different problems with totally different approaches. There is no motivation in Sawdy, Rauscher, and Cruyningen to combine the disparate disclosures to solve the problem addressed by the present invention.

As to independent claims 10 and 22, the Patent Office has combined no less than five references to meet each limitation of claims 10 and 22 and has failed to provide any support for combining each of the five references. Rather, the Patent Office is

impermissibly selecting features from five references in a combination set forth by the present application and stating the combination is obvious.

Obviousness cannot be established by combining the teaching of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teachings of references can be combined only if there is some suggestion or incentive to do so. *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 221 USPQ 929 (Fed. Cir. 1984). Thus, the Examiner may not use the patent application as a basis for the motivation to combine or modify the prior art to arrive at the claimed invention. The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Oetiker*, 977 F.2d 1443, 24 USPQ 2d 1443 (Fed. Cir. 1992) *quoting In re Fine*, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988).

The Dean statement is of the type that gives only general guidance and is not at all specific as to the particular form of the claimed invention and how to achieve it. Such a suggestion may make an approach "obvious to try" but it does not make the invention obvious. We recognize that given the teaching in appellant's specification regarding incorporation of the gene into the chromosome and utilizing the bacteria in the plant environment, one can theoretically explain the technological rationale for the claimed invention using selected teaching from the references. This approach, however, has been criticized by our reviewing court as hindsight reconstruction. *Ex parte Obukowicz* at 1065.


Since obviousness cannot be established by combining the teaching of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination, Claims 1, 10 and 22 should be allowed.

In light of the foregoing, Applicants respectfully submit a *prima facie* case of obviousness is not shown, therefore, removal of the pending rejection under 35 U.S.C. §103(a) to claims 1-12 and 14-27 is requested and allowance is earnestly solicited.

CONCLUSION

In light of the foregoing, reconsideration and allowance of the pending claims is earnestly solicited.

Respectfully submitted on behalf of
LSI Logic,

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